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(54) **FIREARM CONVERSION SYSTEM AND METHOD**

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F41A 35/02 (2006.01)
F41A 11/00 (2006.01)

(52) **U.S. Cl.**
CPC ***F41A 35/02*** (2013.01); ***F41A 11/00*** (2013.01)

(58) **Field of Classification Search**
CPC F41A 11/00; F41A 11/02; F41A 11/04; F41A 35/02; F41A 99/00
USPC 42/71.02, 108
See application file for complete search history.

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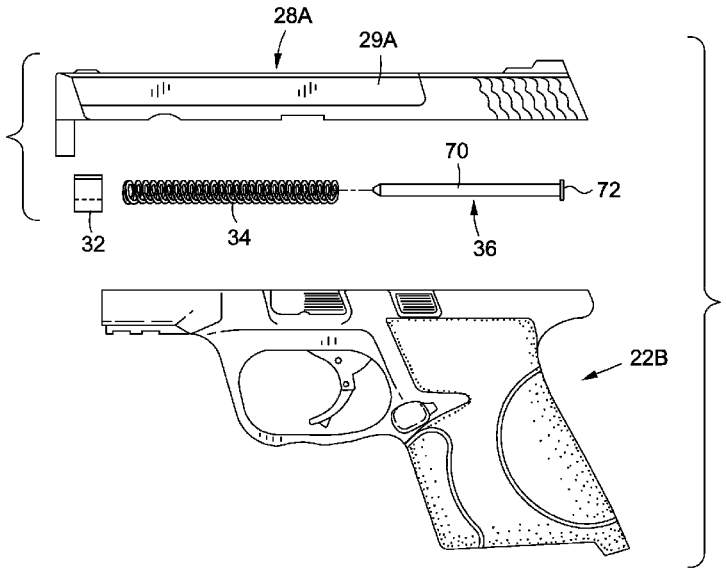
(57) **ABSTRACT**

Methods and systems are provided for modifying a firearm, including a kit for creating a modified handgun from first and second handguns. In one embodiment of the invention, a modified handgun is created which comprises a slide and barrel from a first handgun and a frame of a second handgun, using a kit comprising a dust cover insert, a replacement recoil spring and a replacement recoil spring guide.

10 Claims, 3 Drawing Sheets



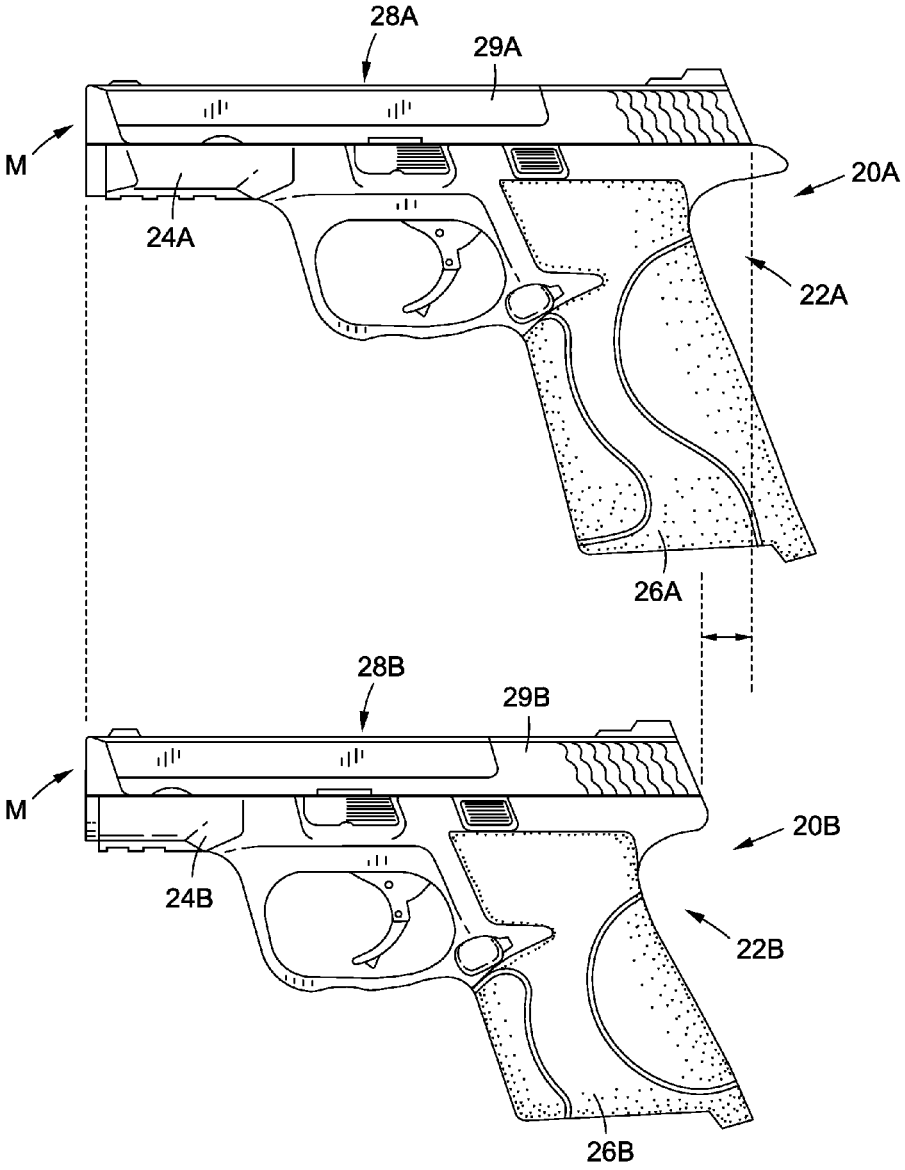


Fig. 1

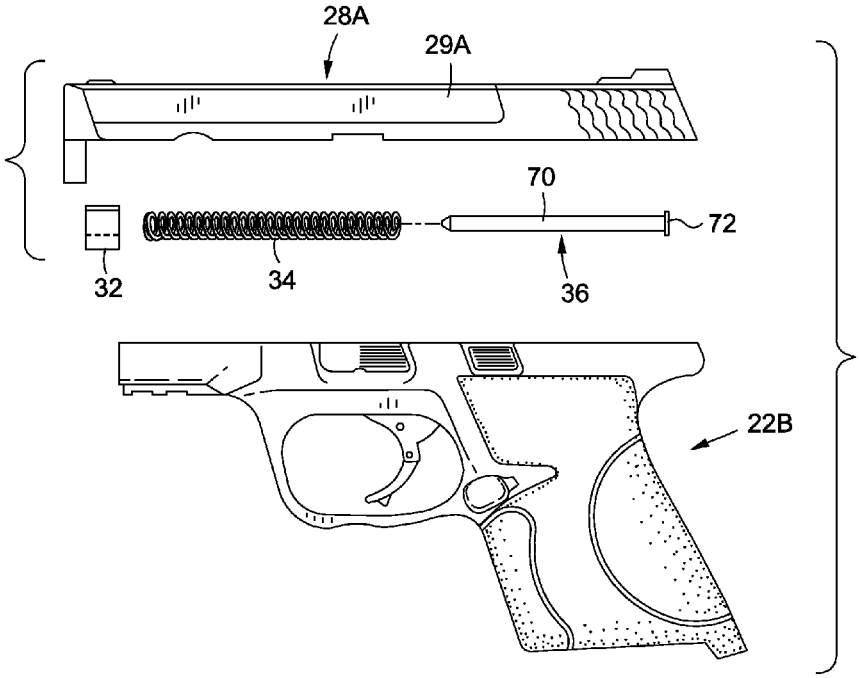


Fig. 2

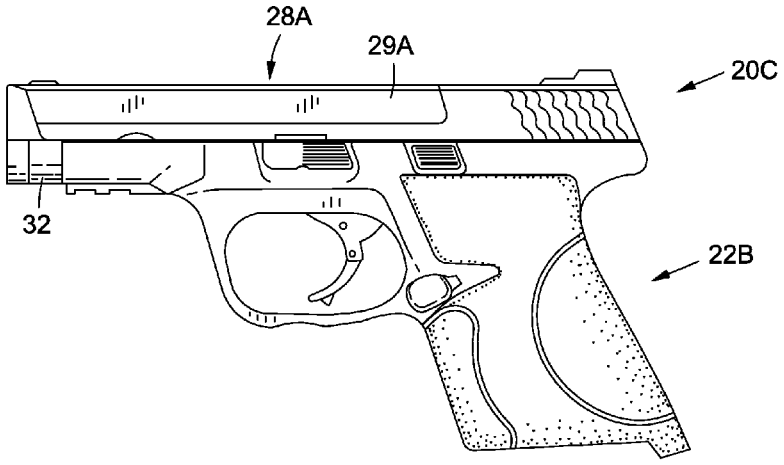


Fig. 3

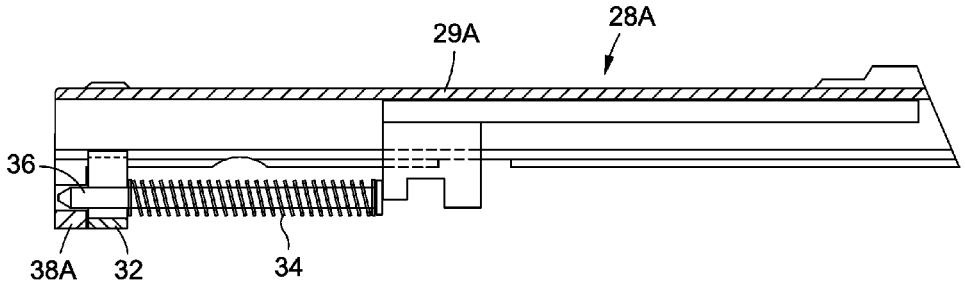


Fig. 4

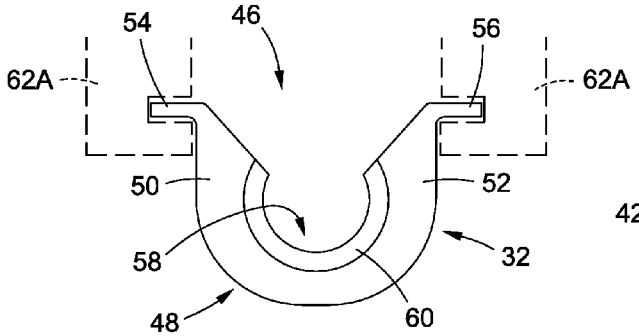


Fig. 5

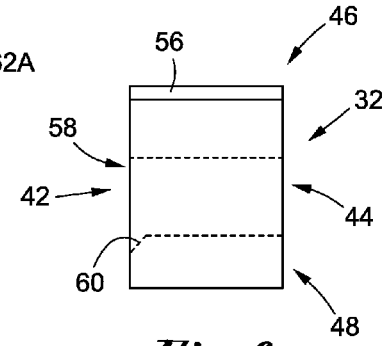


Fig. 6

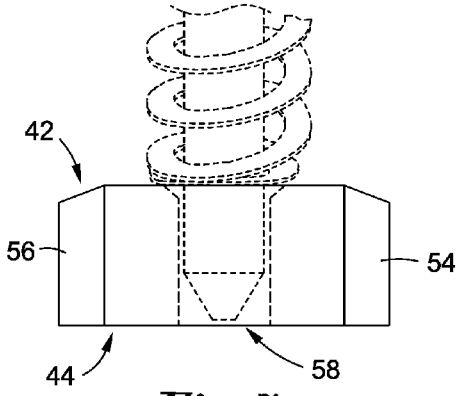


Fig. 7

FIREARM CONVERSION SYSTEM AND METHOD

RELATED APPLICATION DATA

This application is a divisional of U.S. patent application Ser. No. 13/970,871, filed Aug. 20, 2013, now U.S. Pat. No. 8,925,239.

FIELD OF THE INVENTION

The present invention relates to firearms and, more particularly, modifications to handguns.

BACKGROUND OF THE INVENTION

Firearm manufactures make a variety of styles of firearms, including handguns. However, serious firearm users and firearm enthusiasts still find that the various firearms on the market do not always satisfy their needs and/or desires. Firearm users may thus modify existing firearms.

For example, Glock sells 9 mm handguns in a 17L or full size, a 19L or compact size, and a 26L or sub-compact size. A user might desire the lower weight and smaller frame size of the 26L handgun, but desire to retain the length of the 17L barrel. Such a user might attempt to cut down the frame of a 19L to a 26L size or attempt to modify a 26L with a longer barrel. Such modifications are generally very difficult and permanently modify the gun(s).

A convenient and cost-effective method and system for modifying one or more firearms is desired.

SUMMARY OF THE INVENTION

Embodiments of the invention comprise methods and systems for modifying or converting a firearm. In embodiment, a kit is provided for creating a modified handgun from first and second handguns.

One embodiment of the invention is a method of creating a modified handgun from a first handgun having a first frame and a first slide and barrel assembly comprising a first slide and first barrel, a first recoil spring and a first recoil spring guide, and a second handgun having a second frame and a second slide and barrel assembly comprising a second slide and second barrel, a second recoil spring, and a second recoil spring guide. The method preferably comprises the steps of creating a modified first slide and barrel assembly comprising connecting a dust cover insert to the first slide and replacing the first coil spring and second recoil spring guide with a third recoil spring and third recoil spring guide, and connecting the modified first slide and barrel assembly to the second frame in replacement of the second slide and barrel assembly.

Another embodiment of the invention comprises a kit for creating a modified handgun from a first handgun having a first frame and a first slide and barrel assembly comprising a first slide and first barrel, a first recoil spring and a first recoil spring guide, and a second handgun having a second frame and a second slide and barrel assembly comprising a second slide and second barrel, a second recoil spring, and a second recoil spring guide comprising a dust cover connectable to the first slide, a replacement recoil spring guide configured to be connected to the first slide in replacement of the first recoil spring guide, and a replacement recoil spring configured to be mounted on the replacement recoil spring guide in replacement of the first recoil spring.

In accordance with one embodiment of the invention, a modified handgun may be created which comprises a slide and barrel from a first handgun and a frame of a second handgun. Preferably, the slide and barrel from the first handgun are longer than the slide and barrel which are normally used with the second handgun, whereby the modified handgun as a smaller frame than the first handgun but a longer slide and barrel than the second handgun. This results in a handgun which weighs less than the first handgun but which has improved accuracy over the second handgun (owing to the longer barrel).

Further objects, features, and advantages of the present invention over the prior art will become apparent from the detailed description of the drawings which follows, when considered with the attached figures.

DESCRIPTION OF THE DRAWINGS

FIG. **1** illustrates a first handgun and a second handgun;

FIG. **2** illustrates a slide and barrel assembly from a first handgun for use with a frame of a second handgun, as well as an insert, recoil spring and recoil spring guide in accordance with the present invention;

FIG. **3** illustrates a modified handgun in accordance with the present invention;

FIG. **4** illustrates a slide and barrel assembly from a first handgun as modified with an insert, recoil spring and recoil spring guide of the present invention; and

FIGS. **5-7** illustrate a dust cover insert in accordance with an embodiment of the invention.

DETAILED DESCRIPTION OF THE INVENTION

In the following description, numerous specific details are set forth in order to provide a more thorough description of the present invention. It will be apparent, however, to one skilled in the art, that the present invention may be practiced without these specific details. In other instances, well-known features have not been described in detail so as not to obscure the invention.

One embodiment of the invention is a method and system for modifying one or more firearms. In a preferred embodiment of the invention, a slide and barrel assembly from a first handgun is mounted upon a frame of a second handgun, creating a modified handgun.

The present invention has particular utility to the Smith & Wesson™ military and police (or M&P™) line of 9 mm and 40 caliber handguns. However, the invention is not limited to these firearms and may be used with other firearms, including other handguns, as applicable.

One embodiment of the invention will be described with reference to FIGS. **1-7**. FIG. **1** illustrates a first handgun **20**A and a second handgun **20**B. Preferably, the two handguns have one or more portions with differing dimensions. In a preferred embodiment, the dimensions of slide/barrel assemblies and/or frames of the two handguns **20**A, **20**B vary.

As one example, the first handgun **20**A may comprise a Smith & Wesson™ M&P™ 9 mm full size handgun having a 4.25 inch slide/barrel assembly, whereas the second handgun **20**B may comprise a Smith & Wesson™ M&P™ 9 mm compact size handgun having a shorter 3 inch slide/barrel assembly.

The handguns **20**A,**20**B are preferably of a standard configuration and are thus not described in detail herein, as the details of such are readily known to those of ordinary skill in the art. In general, the first handgun **20**A has a frame **22**A. In general, the frame **22**A has a slide/barrel mounting portion **24**A and a handgrip portion **26**A. The frame **22**A includes a mounting interface which includes mounting rails and lugs

(not shown). Attached to the mounting rails of the frame **22**A is a slide and barrel assembly **28**A. The slide and barrel assembly **28**A comprises a slide **29**A and a barrel (not visible). The slide and barrel assembly **28**A is mounted to the frame **22**A and extends along a first axis. The barrel defines a projectile passage through which projectiles are launched. The barrel has a first or proximal and a second muzzle or distal end M. Projectiles are fed into the proximal end of the barrel and are launched from the muzzle end.

The slide **29**A similarly has a first or proximal end and second distal or muzzle end. The slide **29**A preferably extends over the barrel, such as by defining a barrel passage for accepting at least a portion of the barrel. The slide and barrel assembly **28**A is preferably mounted for linear movement along the first axis relative to the frame **22**A. By the term "along" the first axis, it is meant that the slide and associated barrel move in a linear path parallel to an axis which extends along/parallel to the length of the frame **22**A.

The second handgun **20**B has a similar configuration, having a frame **22**B, a slide/barrel mounting portion **24**B, a handgrip portion **26**B, a slide and barrel assembly **28**B which includes a slide **29**B and a barrel.

In the illustrated configuration, the frame **22**A of the first handgun **20**A is generally larger than the frame **22**B of the second handgun **20**B, including in both overall length (from a front end to a rear end) and in the size of the handgrip portion **26**A,B. In addition, the slide and barrel assembly **28**A of the first handgun **20**A is longer than the slide and barrel assembly **28**B of the second handgun **20**B. As indicated above, relative to the above described handguns, the slide and barrel assembly **28**A of the first handgun **20**A may be about 4.25 inches long, while the slide and barrel assembly **28**B of the second handgun **20**B is only about 3 inches long.

In accordance with one embodiment of the invention, a method and system is provided by which the handguns may be modified, such as by using parts or components from both handguns to create a third or modified handgun.

In a most preferred embodiment, the slide and barrel assembly **28**A from the first handgun **20**A is mounted to and used with the frame **22**B of the second handgun **20**B. Referring to FIG. **2**, in one embodiment the slide and barrel assembly **28**A of the first handgun **20**A is removed from the frame **22**A of the first handgun **20**A. The slide and barrel assembly **28**B of the second handgun **20**B is removed from the frame **22**B of the second handgun **20**B. In one embodiment, the slide and barrel assembly **28**A of the first handgun **20**A is mountable upon the frame **22**B of the second handgun **20**B via a kit, which kit preferably comprises an insert **32**, a replacement recoil spring **34** and a replacement recoil spring guide **36**.

In one embodiment, the insert **32**, recoil spring **34** and recoil spring guide **36** guide are mounted to the slide **29**A of the first handgun **20**A to create a modified slide and barrel assembly, and then the modified slide and barrel assembly is in turn mounted to the frame **22**B of the second handgun **20**B, thus creating a modified handgun **20**C, as best illustrated in FIG. **3**.

In one embodiment, the insert **32** is configured to mount to the slide **29**A and be positioned between a muzzle end of the frame **22**B and a dust cover portion **38**A of the slide **29**A. One embodiment of the insert **32** is illustrated in FIGS. **5-7**. As illustrated therein, the insert **32** comprises a body having a first end **42**, an opposing second end **44**, a top **46** and a bottom **48**. The insert **32** is generally "U" or arched shaped, thus generally having a pair of opposing legs **50**,**52**. The legs **50**,**52** are separated at the top **46** of the insert **32** and connected at the bottom **48** of the insert **32**.

At the top **46** of the insert, a pair of feet or mounts **54**,**56** extend outwardly (in generally opposing directions and in a plane) for engagement with the mounting rails of a handgun slide. The insert **32** defines a channel **58** for accepting the recoil spring guide **36**. In the embodiment which is illustrated, the channel **58** is located between the legs **50**,**52**. As illustrated, a top surface of each leg **50**,**52** preferably slopes downwardly from its respective mount **54**,**56** to a generally cylindrical portion of the channel **58**.

In one embodiment, a seat **60** is defined at the channel **58** at the first end **42** of the insert **32**. The seat **60** comprises a recessed portion of the channel **58**.

In use, the existing recoil spring and recoil spring guide (not shown) which are associated with the slide **29**A of the first handgun **20**A are removed. The mounts **54**,**56** of the insert **32** are preferably located in slots defined by rails **62**A (see FIG. **5**) of the slide **29**A, with the main body of the insert **32** located between the rails **62**A. The insert **32** is preferably positioned next to the existing dust cover **38**A of the slide **29**A, as best illustrated in FIG. **4**.

Preferably, the replacement recoil spring **34** and replacement recoil spring guide **36** are utilized with the insert **32**. In one embodiment, the recoil spring guide **36** comprises a pin or rod **70** and a head or mounting portion **72**. Preferably, the head **72** is located at one end of the rod **70** opposite a free end thereof. The opposing end is preferably tapered. The head **72** is configured to engage a mount of the slide **29**A. In one embodiment, the replacement recoil spring guide **36** is substantially similar to a recoil spring guide of the first handgun **20**A, except that it is shorter and has a tapered free end, and is substantially similar to a recoil spring guide of the second handgun **20**B, except that it is longer and has a tapered free end.

The recoil spring **34** preferably comprises a coil spring having a first end and a second end. The recoil spring **34** is substantially similar to a recoil spring of the first handgun **20**A, except that it is shorter, and is substantially similar to a recoil spring of the second handgun **20**B, except that it is longer. Preferably, however, the spring rate of the replacement recoil spring **34** is the same or approximately the same as the recoil spring of the first handgun **20**A.

In use, the replacement recoil spring **34** is positioned on the replacement recoil spring guide **36**. The head **72** of the recoil spring guide **36** is connected to the slide **29**A, with the free end of the pin **70** extending through the channel **58** in the insert **32** and thereon into the dust cover **38**A portion of the slide **29**A. At the time, a second end of the recoil spring **34** is preferably seated in/against the seat **60** of the insert **32**.

Next, the modified slide and barrel assembly **28**A (which includes the insert **32**, replacement recoil spring **34** and replacement recoil spring guide **36**) are connected to the frame **22**B of the second handgun **20**B, using the connecting rails and mounting lugs, as is known in the art. The completed modified handgun **20**C appears as shown in FIG. **3**. As indicated, the insert **32** serves to extend the dust cover portion **38**A of the first slide and barrel assembly **28**A to the frame **22**B. The replacement recoil spring **34** and replacement recoil spring guide **36** cause the slide and barrel assembly **28**A from the first handgun **20**A to be operable with the frame **22**B of the second handgun **20**B.

The invention has a number of advantages. In accordance with an embodiment of the invention, a modified handgun is created which comprises a slide and barrel from a first handgun and a frame of a second handgun. Preferably, the slide and barrel from the first handgun are longer than the slide and barrel which are normally used with the second handgun, whereby the modified handgun as a smaller frame than the

first handgun but a longer slide and barrel than the second handgun. This results in a handgun which weighs less than the first handgun but which has improved accuracy over the second handgun (owing to the longer barrel).

As indicated, the invention may be implemented relative to a number of different handguns. In one embodiment, the invention is implemented relative to the standard and compact versions of the Smith & Wesson Military and Police 9 mm handguns or the standard and compact versions of the Smith & Wesson Military and Police 40 caliber handguns. These pairs of handguns have the advantage that the interfaces between the slides/barrels and the frames of the pairs of handguns are the same, permitting the slide and barrel from one handgun to be mounted on the other gun. In accordance with the present invention, the slide and barrel from one of these handguns can be mounted on the other and made workable using the method and system of the present invention.

It will be understood that the above described arrangements of apparatus and the method there from are merely illustrative of applications of the principles of this invention and many other embodiments and modifications may be made without departing from the spirit and scope of the invention as defined in the claims.

What is claimed is:

1. A kit for creating a modified handgun from a first handgun having a first frame and a first slide and barrel assembly comprising a first slide and first barrel, a first recoil spring and a first recoil spring guide, and a second handgun having a second frame and a second slide and barrel assembly comprising a second slide and second barrel, a second recoil spring, and a second recoil spring guide, wherein said first slide and barrel assembly is modified and connected to said second frame in replacement of said second slide and barrel assembly, said kit comprising:

a dust cover insert connectable to said first slide;

a replacement recoil spring guide configured to be connected to said first slide in replacement of said first recoil spring guide; and

a replacement recoil spring configured to be mounted on said replacement recoil spring guide in replacement of said first recoil spring,

whereby said kit is configured to create a modified first slide and barrel assembly which is connectable to said second frame in replacement of said second slide and barrel assembly.

2. The kit in accordance with claim **1** wherein said first slide has mounting rails and said dust cover insert is generally "U" shaped and has first and second mounts which engage said mounting rails.

3. The kit in accordance with claim **1** wherein said replacement recoil spring is longer than said second recoil spring and shorter than said first recoil spring.

4. The kit in accordance with claim **1** wherein said replacement recoil spring guide is longer than said second recoil spring guide and shorter than said second recoil spring guide.

5. The kit in accordance with claim **4** wherein said replacement recoil spring guide comprises a rod having a head located at a first end and a second tapered end.

6. The kit in accordance with claim **1** wherein said first recoil spring has a first length and said second recoil spring has a second length different than said first length.

7. the kit in accordance with claim **1** wherein said first recoil spring guide has a first length and said second recoil spring guide has a second length different than said first length.

8. The kit in accordance with claim **1** wherein said first slide and barrel assembly has a first length and said second slide and barrel assembly has a second length.

9. The kit in accordance with claim **8** wherein said dust cover insert has a length equal to the difference between said first length and said second length.

10. The kit in accordance with claim **1** wherein said first handgun comprises a Smith & Wesson Military and Police model 9 mm standard and said second handgun comprises a Smith & Wesson Military and Police model 9 mm compact.

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